

## Technical Data Sheet

## Purified NA/LE Rat Anti-Mouse CD25

## Product Information

|                         |                                                                                                                                                                                                                               |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Material Number:</b> | <b>553864</b>                                                                                                                                                                                                                 |
| <b>Alternate Name:</b>  | Interleukin-2 receptor alpha chain; IL-2RA; IL-2R $\alpha$ ; IL2ra; IL-2R p55                                                                                                                                                 |
| <b>Size:</b>            | 0.5 mg                                                                                                                                                                                                                        |
| <b>Concentration:</b>   | 1.0 mg/ml                                                                                                                                                                                                                     |
| <b>Clone:</b>           | PC61                                                                                                                                                                                                                          |
| <b>Immunogen:</b>       | IL-2-dependent cytolytic mouse T-cell clone B6.1                                                                                                                                                                              |
| <b>Isotype:</b>         | Rat (OFA) IgG1, $\lambda$                                                                                                                                                                                                     |
| <b>Reactivity:</b>      | QC Testing: Mouse                                                                                                                                                                                                             |
| <b>Storage Buffer:</b>  | No azide/low endotoxin: Aqueous buffered solution containing no preservative, 0.2 $\mu$ m sterile filtered. Endotoxin level is $\leq 0.01$ EU/ $\mu$ g ( $\leq 0.001$ ng/ $\mu$ g) of protein as determined by the LAL assay. |

## Description

The PC61 antibody reacts with CD25, the low-affinity IL-2 Receptor  $\alpha$  chain (IL-2R $\alpha$ , p55) expressed on activated T and B lymphocytes from all mouse strains tested. IL-2R $\alpha$  by itself is not a signaling receptor. However, it can combine with IL-2 Receptor  $\beta$  (CD122) and  $\gamma$  (CD132) chains to form high-affinity, signaling receptor complexes for IL-2. Resting T and B lymphocytes and resting and activated NK cells do not express IL-2R $\alpha$ . CD25 is transiently expressed at a low level during normal B-cell development in the bone marrow on the CD45R/B220low TdT- sIg- Pre-B/Pre-B-II and CD45R/B220low TdT- sIgM+ sIgD- immature B stages, but not on the CD45R/B220low TdT+ sIg- Pro-B/Pre-B-I stage nor on CD45R/B220high TdT- sIgM+ sIgD+ mature B cells. It is expressed at a higher level during a very early stage of T-cell development in fetal and adult thymus. Peripheral CD25+CD4+ lymphocytes called regulatory T (Treg) cells are involved in the maintenance of self-tolerance. It has also been reported that dendritic cells express CD25, recognized by mAb 7D4 (Cat. No. 553068). The PC61 antibody recognizes an epitope of CD25 which is distinct from the IL-2 binding site and from those recognized by mAbs 3C7 (Cat. No. 557364) and 7D4 (Cat. No. 553068). It blocks binding of IL-2 to CD25, presumably by inducing a conformational change in CD25.

Use of this product can fall under one or more claims of the following patents licensed to Becton, Dickinson and Company: US Patent Nos. 5,445,939, 5,656,446, 5,843,689; European Patent No. 319,543; Canadian Patent No. 1,296,622; Australian Patent No. 615,880; and Japanese Patent No. 2,769,156.

## Preparation and Storage

Store undiluted at 4°C.

This preparation contains no preservatives, thus it should be handled under aseptic conditions.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

## Application Notes

## Application

|                |                  |
|----------------|------------------|
| Flow cytometry | Routinely Tested |
| Blocking       | Reported         |

## Recommended Assay Procedure:

**Flow Cytometry:** Investigators may also wish to consider using PE Rat Anti-Mouse CD25 (Cat. No. 553866) or Biotin Rat Anti-Mouse CD25 (Cat. No. 553069) coupled with PE Streptavidin (Cat. No. 554061) for samples expressing low levels of CD25.

**Immunohistochemistry:** Investigators are encouraged to consider using Biotin Rat Anti-Mouse CD25 (Cat. No. 550529) for the immunohistochemistry application.

## Suggested Companion Products

| Catalog Number | Name                                               | Size   | Clone      |
|----------------|----------------------------------------------------|--------|------------|
| 553866         | PE Rat Anti-Mouse CD25                             | 0.2 mg | PC61       |
| 553069         | Biotin Rat Anti-Mouse CD25                         | 0.1 mg | 7D4        |
| 554061         | PE Streptavidin                                    | 0.5 mg | (none)     |
| 559157         | Purified NA/LE Rat IgG1, $\lambda$ Isotype Control | 0.5 mg | A110-1     |
| 554016         | FITC Goat Anti-Rat Ig                              | 0.5 mg | Polyclonal |
| 550529         | Biotin Rat Anti-Mouse CD25                         | 1.0 ml | 7D4        |

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## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to [www.bdbiosciences.com/pharmingen/protocols](http://www.bdbiosciences.com/pharmingen/protocols) for technical protocols.

## References

Ceredig R, Lowenthal JW, Nabholz M, MacDonald HR. Expression of interleukin-2 receptors as a differentiation marker on intrathymic stem cells. *Nature*. 1985; 314(6006):98-100. (Clone-specific: Blocking, Immunohistochemistry, Immunoprecipitation)

Chen J, Ma A, Young F, Alt FW. IL-2 receptor alpha chain expression during early B lymphocyte differentiation. *Int Immunol*. 1994; 6(8):1265-1268. (Biology)

Crowley M, Inaba K, Witmer-Pack M, Steinman RM. The cell surface of mouse dendritic cells: FACS analyses of dendritic cells from different tissues including thymus. *Cell Immunol*. 1989; 118(1):108-125. (Biology)

Garni-Wagner BA, Witte PL, Tutt MM, et al. Natural killer cells in the thymus. Studies in mice with severe combined immune deficiency. *J Immunol*. 1990; 144(3):796-803. (Biology)

Godfrey DI, Zlotnik A. Control points in early T-cell development. *Immunol Today*. 1993; 14(11):547-553. (Biology)

Lowenthal JW, Corthesy P, Toungne C, Lees R, MacDonald HR, Nabholz M. High and low affinity IL 2 receptors: analysis by IL 2 dissociation rate and reactivity with monoclonal anti-receptor antibody PC61. *J Immunol*. 1985; 135(6):3988-3994. (Immunogen: Blocking)

Lowenthal JW, Zubler RH, Nabholz M, MacDonald HR. Similarities between interleukin-2 receptor number and affinity on activated B and T lymphocytes. *Nature*. 1985; 315(6021):669-672. (Clone-specific: Blocking, Immunoprecipitation)

Moreau JL, Nabholz M, Diamantstein T, Malek T, Shevach E, Theze J. Monoclonal antibodies identify three epitope clusters on the mouse p55 subunit of the interleukin 2 receptor: relationship to the interleukin 2-binding site. *Eur J Immunol*. 1987; 17(7):929-935. (Clone-specific: Blocking)

Pollard AM, Lipscomb MF. Characterization of murine lung dendritic cells: similarities to Langerhans cells and thymic dendritic cells. *J Exp Med*. 1990; 172(1):159-167. (Biology)

Read S, Malmstrom V, Powrie F. Cytotoxic T lymphocyte-associated antigen 4 plays an essential role in the function of CD25(+)CD4(+) regulatory cells that control intestinal inflammation. *J Exp Med*. 2000; 192(2):295-302. (Biology)

Rolink A, Grawunder U, Winkler TH, Karasuyama H, Melchers F. IL-2 receptor alpha chain (CD25, TAC) expression defines a crucial stage in pre-B cell development. *Int Immunol*. 1994; 6(8):1257-1264. (Biology)

Takahashi T, Tagami T, Yamazaki S, et al. Immunologic self-tolerance maintained by CD25(+)CD4(+) regulatory T cells constitutively expressing cytotoxic T lymphocyte-associated antigen 4. *J Exp Med*. 2000; 192(2):303-309. (Clone-specific: Depletion)

Taniguchi T, Minami Y. The IL-2/IL-2 receptor system: a current overview. *Cell*. 1993; 73(1):5-8. (Biology)